

REMARKS/ARGUMENTS

The Applicants have carefully considered this Application in connection with the Examiner's Action and respectfully request reconsideration of the Application in view of the following remarks.

The Applicants originally submitted Claims 1-42 in the application, with two claims inadvertently designated Claim 24. The Examiner renumbered Claims 24-42 as Claims 25-43. In this response, the Applicants have canceled claims 34 and 37 without prejudice or disclaimer. Accordingly, Claims 1-33, 35, 36 and 38-43 are currently pending in the application.

I. Rejection of Claims 24 and 43 under 35 U.S.C. § 112

The Examiner rejected Claims 24 and 43 as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicants regard as the invention. With respect to Claim 24, the Examiner points out that the phrase "the device comprises an interrupt control unit coupled between the peripheral device and the processor and configured to receive the first interrupt signal from the peripheral device" is unclear. In response, the Applicants have amended Claim 24 to replace the term "device," when standing alone, with "functional block" to distinguish the element from the peripheral device. With respect to Claim 43, when the Examiner renumbered Claims 24 through 42 as detailed above, certain elements in old dependent Claim 42, now Claim 43, lost their antecedent basis. In this response, Claim 43 has been amended to properly depend from Claim 41, thus providing a proper antecedent basis for all elements in Claim 43. Accordingly, the Applicants now see Claims 24 and 43 as meeting the requirements of 35 U.S.C. § 112, and respectfully request that the Examiner remove the rejection of these claims under 35 U.S.C. § 112.

II. Rejection of Claims 1, 2, 4-12 and 20-24 under 35 U.S.C. § 102(b)

The Examiner rejected Claims 1, 2, 4-12 and 20-24 over U.S. Patent No 5,237,322 to Heberle. The Applicants respectfully submit that Heberle is not a valid anticipatory reference because Heberle fails to recite each and every element of the presently claimed inventions. Heberle discloses a master-slave transmission system employing a single-wire bus over which any master and any slave may send data at any time. See Abstract. Heberle further teaches various embodiments of instruction execution and addressable registers. See Heberle. However, Heberle does not disclose a dedicated bit manipulation unit coupled between an input data bus and an output data bus of a bus interface, as recited in independent Claims 1 and 20.

Accordingly, Heberle fails to teach each and every element of Claims 1 and 20, and these claims, and claims depending therefrom, are allowable. Therefore, the Applicants respectfully request the withdrawal of the rejection of Claims 1, 2, 4-12 and 20-24 under 35 U.S.C. § 102(b).

III Rejection of Claims 35-43 under 35 U.S.C. § 102(b)

The Examiner rejected Claims 35-43 over U.S. Patent No 5,469,544 to Aatresh, *et al*. The Applicants respectfully submit that Aatresh is not a valid anticipatory reference because Aatresh fails to recite each and every element of the presently claimed inventions. Aatresh discloses a microprocessor for use in a computer system that pipelines addresses for burst and non-burst mode data transfers. See Abstract. However, Aatresh does not disclose performing a bit manipulation operation on an input value using a dedicated bit manipulation unit coupled between input data signal lines and an output bus, as recited in independent Claims 35, 38, 40 and 41.

Accordingly, Aatresh fails to teach each and every element of Claims 35, 38, 40 and 41, and these claims, and claims depending therefrom, are allowable. Therefore, the Applicants respectfully request the withdrawal of the rejection of Claims 35-43 under 35 U.S.C. § 102(b).

IV. Rejection of Claims 15-19 under 35 U.S.C. § 103(a)

The Examiner rejected Claims 15-19 as obvious over Heberle. The Applicants respectfully submit that Heberle does not support a *prima facie* case of obviousness over the presently claimed invention. As set forth previously, Heberle discloses a master-slave transmission system employing a single-wire bus over which any master and any slave may send data at any time. See Abstract. The Examiner notes that the element in independent Claim 15 of a plurality of signal lines is not taught by Heberle, and asserts that this element would be obvious to one skilled in the art. However, as further set forth above, Heberle does not disclose a dedicated bit manipulation unit coupled between an input data bus and an output data bus of a bus interface, as claimed in independent Claim 15. Therefore, Heberle fails to teach each and every element of Claims 15-19. Moreover, there is no suggestion in Heberle, implicit or explicit, to modify the teaching to include a dedicated bit manipulation unit as recited in Claim 15. Such an element would not further the objectives of Heberle, and is therefore nonobvious. Furthermore, the Applicants find no teaching or suggestion of this element in the references cited by the Examiner but not relied upon in his rejection of the claims.

Thus, Heberle fails to teach or suggest each and every element of Claim 15, and Heberle fails to support a *prima facie* case of obviousness. M.P.E.P. § 2143.03. Therefore, Claim 15, and those depending therefrom, are allowable. Accordingly, the Applicants respectfully request the withdrawal of the rejection of Claims 15-19 under 35 U.S.C. § 103(a).

V. Rejection of Claims 3, 13 and 14 under 35 U.S.C. § 103(a)

The Examiner rejected Claims 3, 13 and 14 as obvious over Heberle. The Applicants respectfully submit that Heberle does not support a *prima facie* case of obviousness over these claims. As set forth previously, Heberle does not teach or suggest each and every element of independent Claim 1, from which Claims 3, 13 and 14 depend. Therefore, Heberle fails to teach each and every element of Claims 3, 13, and 14, and the claims are nonobvious over Heberle. Accordingly, the Applicants respectfully request the withdrawal of the rejection of Claims 3, 13 and 14 under 35 U.S.C. § 103(a)

VI. Rejection of Claims 25-34 under 35 U.S.C. § 103(a)

The Examiner rejected Claims 25-34 as obvious over Heberle. The Applicants respectfully submit that Heberle does not support a *prima facie* case of obviousness over these claims. As set forth previously, Heberle does not teach or suggest each and every element of independent Claim 20, from which Claims 25-34 depend. Therefore, Heberle fails to teach each and every element of Claims 25-34, and the claims are nonobvious over Heberle. Accordingly, the Applicants respectfully request the withdrawal of the rejection of Claims 25-34 under 35 U.S.C. § 103(a)

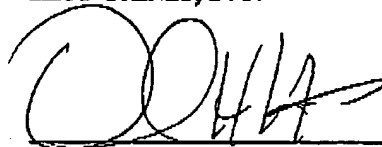
VII. Conclusion

In view of the foregoing amendments and remarks, the Applicants view all of the Claims currently pending in this application to be in condition for allowance and therefore earnestly solicit a Notice of Allowance for Claims 1-33, 35, 36, and 38-43.

The Applicants request the Examiner to telephone the undersigned attorney of record at (972) 480-8800 if such would further or expedite the prosecution of the present application.

Respectfully submitted,

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